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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,614	11/23/2005	William Morris	eVionvx-0077USAAON371	4723
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REVEO, INC. 6 Skyline Drive Hawthorne, NY 10523			EXAMINER CHUO, TONY SHENG HSIANG	
			ART UNIT	PAPER NUMBER
			1795	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/532,614

Applicant(s)

MORRIS ET AL.

Examiner

Tony Chuo

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/25/09 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/55/08)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Priority

1. Priority to Provisional Application No. 60/420,689 is granted for claims 1 and 4. However, priority to Provisional Application No. 60/420,689 is not granted for claims 2, 3, and 5 because of lack of support for the claimed subject matter in the provisional application.

Drawings

2. The drawings filed on 4/25/05 are accepted by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Shrim et al (US 4693946).

Regarding claim 1, the Shrim reference discloses an electrochemical zinc-air battery "10" comprising: at least one cell "12" having a zinc electrode "22" (anode) and at least one air electrode "30" (air cathode) in ionic communication and electrical isolation, and a housing "14" (cathode frame) adjacent the air cathode, the housing

including an oxidant inlet "38" and an oxidant outlet "42" (See column 5 line 34 to column 6 line 46 and Figures 1-3). Examiner's note: It is inherent that the oxidant inlet and oxidant outlet are configured and dimensioned such that upon submergence of the at least one cell in a body of liquid, oxidant flow between the inlet and outlet is not prevented from accessing the air cathode by the liquid because the liquid level after submersion is construed as being below the location of the oxidant inlet and oxidant outlet.

Regarding claim 2, it also discloses two air electrodes "30" that are positioned, one on each side of the zinc electrode "22" which implies that the anode has a first surface and a second surface, wherein a first air cathode portion is electrochemically coupled to the first surface of the anode and a second air cathode portion is electrochemically coupled to the second surface of the anode (See column 6, lines 20-24).

Regarding claim 4, it also discloses that reaction air "26" passing through the cell "12" is significantly heated in the cell "12" due to contact with the hot air electrode "30" (See column 6, lines 47-49). This increase in the temperature of the reaction air inherently provides a driving force for the air flow to exit the system through the outlet because of the tendency of increased temperature air to rise.

Regarding claim 5, it also discloses an air flow for the reaction air that originates from a single air blower which is an external source of an external driving force for air flow (See column 3, lines 54-57).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shrim et al (US 4693946) in view of Strong et al (US 4871627). The Shrim reference is applied to claims 1 and 2 for reasons stated above.

However, Shrim et al does not expressly teach at least a first cell and a second cell, wherein a single cathode frame is provided between air cathode portions of adjacent cells. The Strong reference discloses a multi-cell metal air battery comprising a first cell and a second cell, wherein a single air cathode assembly "15" including a pair of cathodes mounted in a support frame "17" is provided between air cathode portions of adjacent cells (See column 4, lines 61-63 and Figure 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Shrim battery to include at least a first cell and a second cell, wherein a single cathode frame is provided between air cathode portions of adjacent cells in order to provide a multi-cell metal/air battery which is compact and has excellent performance characteristics.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Niksa et al (US 4693946) discloses a battery comprising a cathode frame adjacent the air cathode, wherein the cathode frame includes an oxidant inlet and an oxidant outlet. However, Niksa does not expressly teach an inlet and outlet that is prevented from accessing the air cathode by a body of liquid when the cathode frame is submerged.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571)272-0717. The examiner can normally be reached on M-F, 9:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 1795

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC

/Jonathan Crepeau/
Primary Examiner, Art Unit 1795